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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,382	01/12/2006	Mark Thomas Johnson	NL030830	8992
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EXAMINER				
SITTA, GRANT				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,382

Applicant(s)

JOHNSON ET AL.

Examiner

GRANT D. SITTA

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
Paper No(s)/Mail Date 3/08/2007, 1/12/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Double Patenting

1. Claims 1, 2, 10, and 13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 12 of copending Application No. 10/564,381. *Although the conflicting claims are not identical, claim 1 of the instant application is anticipated by claim 1 of the pending application 10/564,381. Therefore, claim 1 of the instant application is not patently distinct from the earlier application and as such is in unpatentable for obvious-type double patenting.*

They are not patentably distinct from each other because they both update a portion of the image according to a portion of the display defined by either the sub-assembly or sub-group.

10/564,382	10/564,381
1. An electrophoretic display panel (1), comprising: an electrophoretic medium (5) comprising charged particles (6); a plurality of picture elements (2); electrodes (3,4) associated with each picture element (2) for receiving a potential difference; and drive means (100), the drive means (100) being arranged for controlling the potential difference of each picture element (2) to be a grey scale potential difference for enabling the particles (6) to occupy the position corresponding to the image information, characterized in the drive means are further arranged for application of grey scale potential differences during an update period to only a sub-assembly of the picture elements of the display, without addressing the remainder of the picture elements of the display during said	1. An electrophoretic display panel (1), for displaying an image corresponding to image information, comprising: a plurality of pixels (4), each containing an amount of an electrophoretic material, an electrode arrangement (8,9) associated with each pixel (4) for receiving a potential difference as defined by an update drive waveform (12); and pixel drive means (10), for controlling said update drive waveform (12) of each pixel (4); characterized in that said drive means (10), at least in a portion of the display, is arranged to update a first subgroup of pixels (4) which, is arranged to display a greyscale in a current image frame (13) which differs from the greyscale displayed in a previous image frame (14), and hence said drive means is arranged to intentionally avoid to update a second subgroup of pixels (4).

update period.	
2. An electrophoretic display panel as claimed in claim 1, characterized in that the drive means are further arranged for application of grey scale potential differences at only a portion of the display, i.e. a specific area of the display.	Claim 1, ... characterized in that said drive means (10), at least in a portion of the display,... which, is arranged to display a greyscale in a current image frame (13) which differs from the greyscale displayed in a previous image frame (14), and hence said drive means is arranged to intentionally avoid to update a second subgroup of pixels
10. A method for driving an electrophoretic display device comprising: an electrophoretic medium (5) comprising charged particles (6); a plurality of picture elements (2), in which method grey scale data pulses are applied to elements of the display device during an update period, characterized in that the grey scale data pulses are applied to a sub-assembly of the picture elements, without updating the remainder of the picture elements.	1. An electrophoretic display panel (1), for displaying an image corresponding to image information, comprising: a plurality of pixels (4), each containing an amount of an electrophoretic material, an electrode arrangement (8,9) associated with each pixel (4) for receiving a potential difference as defined by an update drive waveform (12); and pixel drive means (10), for controlling said update drive waveform (12) of each pixel (4); characterized in that said drive means (10), at least in a portion of the display, is arranged to update a first subgroup of pixels (4) which, is arranged to display a greyscale in a current image frame (13) which differs from the greyscale displayed in a previous image frame (14), and hence said drive means is arranged to intentionally avoid to update a second subgroup of pixels (4).
11. A method as claimed in claim 10, characterized in that the grey scale data pulses are applied portion-for-portion of the display panel.	Claim 1, ... characterized in that said drive means (10), at least in a portion of the display,... which, is arranged to display a greyscale in a current image frame (13) which differs from the greyscale displayed in a previous image frame (14), and hence said drive means is arranged to intentionally avoid to update a second

	subgroup of pixels
13. Drive means (100) for driving an electrophoretic display panel (1), said display panel (1) comprising: an electrophoretic medium (5) comprising charged particles (6); a plurality of picture elements (2); and electrodes (3,4) associated with each picture element (2) for receiving a potential difference; said drive means (100) being arranged for controlling the potential difference of each picture element (2) to be a grey scale potential difference for enabling the particles (6) to occupy the position corresponding to the image information, said drive means (100) being further arranged for application of grey scale potential differences during an update period to only a sub-assembly of the picture elements of the display, without addressing the remainder of the picture elements of the display during said update period.	1. An electrophoretic display panel (1), for displaying an image corresponding to image information, comprising: a plurality of pixels (4), each containing an amount of an electrophoretic material, an electrode arrangement (8,9) associated with each pixel (4) for receiving a potential difference as defined by an update drive waveform (12); and pixel drive means (10), for controlling said update drive waveform (12) of each pixel (4); characterized in that said drive means (10), at least in a portion of the display, is arranged to update a first subgroup of pixels (4) which, is arranged to display a greyscale in a current image frame (13) which differs from the greyscale displayed in a previous image frame (14), and hence said drive means is arranged to intentionally avoid to update a second subgroup of pixels (4).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. "i.e. a specific area of the display" in claim 2, last line is indefinite. For purposes of examination Examiner is going to assume the expression was not there.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 4-11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Gates et al (6,531,997) hereinafter, Gates.

6. In regards to claim 1, Gates teaches an electrophoretic display panel (1), comprising: an electrophoretic medium (fig. 1a (25)) (5) comprising charged particles (6) (fig. 1a (50)); a plurality of picture elements (2) (fig. 1a (50)); electrodes (3,4)(fig. 1a (30 and 40)) associated with each picture element (2) for receiving a potential difference (fig. 1a (+ and -)); and drive means (100) (col. 30, lines 53-67), the drive means (100)

being arranged for controlling the potential difference of each picture element (2) (col. 30, lines 53-67 and fig. 1a (+ and -))) to be a grey scale potential difference for enabling the particles (6) to occupy the position corresponding to the image information (fig. 1a-1d), characterized in the drive means are further arranged for application of grey scale potential differences during an update period to only a sub-assembly of the picture elements of the display (col. 20-21, lines 53-67), without addressing the remainder of the picture elements of the display during said update period (col. 20-21, lines 53-67).

7. In regards to claim 10, Gates teaches a method for driving an electrophoretic display device comprising: an electrophoretic medium (fig. 1a (25)) (5) comprising charged particles (fig. 1a (50)) (6); a plurality of picture elements (2) (fig. 1a (50)), in which method grey scale data pulses are applied to elements of the display device during an update period (col. 3, lines 58-67), characterized in that the grey scale data pulses are applied to a sub-assembly of the picture elements (fig. 1a-1d (50)), without updating the remainder of the picture elements (col. 20-22, lines 53-14).

8. In regards to claim 13, Gates teaches drive means (100) for driving an electrophoretic display panel (1) (fig. 1a-1d), said display panel (1) comprising: an electrophoretic medium (5) (fig. 1 (25)) comprising charged particles (6)(fig. 1a (50)); a plurality of picture elements (2)(fig. 1a (50)); and electrodes (3,4) associated with each picture element (2) for receiving a potential difference (fig. 1a-1d (30 and 40)); said drive

means (100) being arranged for controlling the potential difference of each picture element (col. 3, lines 58-67) (2) to be a grey scale potential difference for enabling the particles (6) to occupy the position corresponding to the image information (fig. 1a-1d), said drive means (100) being further arranged for application of grey scale potential differences during an update period to only a sub-assembly of the picture elements of the display(col. 20-22, lines 53-14), without addressing the remainder of the picture elements of the display during said update period(col. 20-22, lines 53-14).

9. In regards to claim 2, Gates teaches an electrophoretic display panel as claimed in claim 1, characterized in that the drive means are further arranged for application of grey scale potential differences at only a portion of the display (fig. 4a and 4b "A" and "B").

10. In regards to claim 4, Gates teaches an electrophoretic display panel as claimed in claim 1, characterized in that the drive means are arranged for application of a common grey scale potential difference to all of the picture elements to drive each picture element (col. 21, lines 7-57) to a position corresponding to or close to a position corresponding to the grey scale data (col. 21, lines 7-57), and for separate application of grey scale potential differences at only a sub-assembly (col. 21, lines 49-67) of the picture elements of the display (fig. 4A and 4B (200)), without addressing the remainder of the picture elements of the display col. 22, lines 1-47).

11. In regards to claim 5, Gates teaches an electrophoretic display panel as claimed in claim 4, wherein the drive means are arranged for separate application of grey scale potential differences prior to the application of the common grey scale potential difference(col. 21, lines 7-57).

12. In regards to claim 6, Gates teaches an electrophoretic display panel as claimed in claim 4, wherein the drive means are arranged for separate application of grey scale potential differences subsequent to the application of the common grey scale potential difference (col. 21, lines 7-57). Examiner notes the application is subsequent to the previous application of grey scale data.

13. In regards to claim 7, Gates teaches an electrophoretic display panel as claimed in claim 1, wherein the drive means are arranged for application of preset voltage differences (col. 21, lines 7-57).

14. In regards to claim 8, Gates teaches an electrophoretic display panel as claimed in claim 1, wherein the drive means are arranged for application of a reset potential difference (col. 27, lines 54-67).

15. In regards to claim 9, Gates teaches an electrophoretic display panel as claimed in claim 8, wherein the drive means are arranged for application of an overreset potential difference. (Col. 18, lines 8-20 pre-addressing).

16. In regards to claim 11, Gates teaches a method as claimed in claim 10, characterized in that the grey scale data pulses are applied portion-for-portion of the display panel (fig. 4A and 4B (200) portions in the matrix).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
19. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gates, in view of Comiskey et. al (US 2002/0063661) hereinafter, Comiskey.
20. In regards to claims 3, Gates differs from the claimed invention in that Gates does not disclose characterized in that the drive means are arranged for application of grey scale potential differences *in an interlaced manner*.

However, Comiskey teaches a system and method for characterized in that the drive means are arranged for application of grey scale potential differences in an interlaced manner. ([0083] of Comiskey).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use of characterized in that the drive means are arranged for application of grey scale potential differences in an interlaced manner as taught by Comiskey in order to improve picture quality without consuming extra bandwidth.

21. In regards to claims 12, Gates teaches characterized in that the grey scale data pulses are applied to an electrophoretic display panel (fig. 3a-3c pulses).

Gates differs from the claimed invention in that Gates does not disclose characterized in that the grey scale data pulses are applied in an interlaced manner.

However, Comiskey teaches a system and method for characterized in that the drive means are arranged for application of grey scale potential differences in an interlaced manner ([0083] of Comiskey).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use of characterized in that the grey scale data pulses are applied in an *interlaced manner* as taught by Comiskey in order to improve picture quality without consuming extra bandwidth.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/GDS/
September 26, 2008